

AMENDMENTS TO THE CLAIMS

1. – 27. (Cancelled)

28. (New) A method for determining the ethnic origin of a male, comprising:
analyzing a nucleic acid sample from the male for an allelic form of a plurality of Y
chromosome polymorphisms, which polymorphisms are biallelic or triallelic, wherein the
plurality of polymorphisms is representative of allelic forms of at least one of haplotype Group I,
haplotype Group II, haplotype Group III, haplotype Group IV, haplotype Group V, haplotype
Group VI, haplotype Group VII, haplotype Group VIII, haplotype Group IX or haplotype Group
X;

determining the allelic form of the plurality of Y chromosome polymorphisms in the
nucleic acid sample;

wherein the allelic form of the markers is indicative of the haplogroup of the male, which
haplogroup is indicative of the ethnic origin of the male.

29. (New) The method of claim 28, wherein the plurality of polymorphic markers
identify a sub-haplogroup for the ethnic origin of the male.

30. (New) The method of claim 28, wherein the plurality of polymorphisms is
representative of allelic forms of haplotype Group I.

31. (New) The method of claim 30, wherein the plurality of polymorphisms includes
M91.

32. (New) The method of claim 28, wherein the plurality of polymorphisms is
representative of allelic forms of haplotype Group II.

33. (New) The method of claim 32, wherein the plurality of polymorphisms includes
M249.

34. (New) The method of claim 28, wherein the plurality of polymorphisms is representative of allelic forms of haplotype Group III.

35. (New) The method of claim 34, wherein the plurality of polymorphisms includes M96.

36. (New) The method of claim 28, wherein the plurality of polymorphisms is representative of allelic forms of haplotype Group IV.

37. (New) The method of claim 36, wherein the plurality of polymorphisms includes M174.

38. (New) The method of claim 28, wherein the plurality of polymorphisms is representative of allelic forms of haplotype Group V.

39. (New) The method of claim 38, wherein the plurality of polymorphisms includes M316.

40. (New) The method of claim 28, wherein the plurality of polymorphisms is representative of allelic forms of haplotype Group VI.

41. (New) The method of claim 40, wherein the plurality of polymorphisms includes M235.

42. (New) The method of claim 28, wherein the plurality of polymorphisms is representative of allelic forms of haplotype Group VII.

43. (New) The method of claim 42, wherein the plurality of polymorphisms includes M214.

44. (New) The method of claim 28, wherein the plurality of polymorphisms is representative of allelic forms of haplotype Group VIII.

45. (New) The method of claim 44, wherein the plurality of polymorphisms includes M9.

46. (New) The method of claim 28, wherein the plurality of polymorphisms is representative of allelic forms of haplotype Group IX.

47. (New) The method of claim 46, wherein the plurality of polymorphisms includes M207.

48. (New) The method of claim 28, wherein the plurality of polymorphisms is representative of allelic forms of haplotype Group X.

49. (New) The method of claim 48, wherein the plurality of polymorphisms includes M242.

50. (New) A method for determining the paternity of a human male, comprising:
analyzing a first nucleic acid sample from a first male for an allelic form of a plurality of Y chromosome polymorphisms, which polymorphisms are biallelic or triallelic;
determining the allelic form of the plurality of Y chromosome polymorphisms in the nucleic acid sample;
comparing the allelic form of the plurality of Y chromosome polymorphisms in the first nucleic acid sample of the first male with the allelic form of the polymorphisms in a second nucleic acid sample of a second male;
wherein said comparing indicates whether the first male is related to the second male.

51. (New) The method of claim 50, wherein the presence of multiple allelic forms of a Y chromosome polymorphism in the plurality of Y chromosome polymorphisms indicates the sample is from a plurality of males.